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REMARKS

Claims 1-22 are pending in the present Application. Claims 21-22 have been withdrawn from consideration, Claim 13 has been amended, leaving Claims 1-20 for consideration. Claim 13 has been amended merely to correct the placement of a comma in the claim. Reconsideration and allowance of these claims is respectfully requested in view of the following remarks.

Election/Restriction

The Examiner has withdrawn Claims 21 and 22 from consideration as being directed to a non-elected invention.

IDS Submission

Applicants submitted an information disclosure statement on Nov. 19, 2003. The Examiner has not returned a signed copy of the PTO-1449 form acknowledging that the Examiner has considered the art contained therein. Applicants respectfully request that the Examiner consider the art from the November 19, 2003 information disclosure statement and provide Applicants with a signed copy of the PTO-1449 form.

Claim Rejections Under 35 U.S.C. § 103(a)

Claims 1-13, and 16-20 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over U.S. Patent No. 5,817,920 to Kuisell et al. in view of U.S. Patent No. 5,329,806 to McClanahan et al. Applicants respectfully traverse this rejection.

Applicants' independent Claim 1 and 7 disclose, *inter alia*, a terminal support disposed within the wiring harness, wherein the terminal support comprising a channel extending therethrough, the channel comprising an indentation.

Applicants' independent Claim 13 disclose, *inter alia*, "a one-piece seal, said seal having a body disposed in a first portion of said upper shield and a flange, wherein an edge of said upper shield is disposed between at least a portion of said flange and said body".

Kuisell et al. teach a terminal adapter, upper insulator, outer shield, wedge ring, lower insulator, and a portion of a sensing element located within an upper shield. (Col. 2, lines 11-15). Terminals engage female terminal slots, which are connected to electrical wires. (Col. 3,

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lines 50-51). The terminals are tightly fitted in the cylindrical openings passing through the terminal adapter. (Col. 3, lines 52-54).

McClanahan et al. teach an oxygen sensor including an upper shield, a body, a lower shield, and a cap all connected together to form the oxygen sensor housing. (Col. 2, lines 61-64). A plug or seal may be inserted into the oxygen sensor cap. (Col. 3, lines 24-26). The cap may include a first resilient lock for releasably locking onto a ridge formed on an upper portion of the body of the sensor. The first resilient lock may be an inwardly extending lip or a resilient finger at the lower edge of the cap. (Col. 3, lines 46-50).

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a *prima facie* case of obviousness, i.e., that all elements of the invention are disclosed in the prior art; that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references; and that the proposed modification of the prior art had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

In making the rejection, the Examiner stated that "Kuisell teaches the claimed invention except for the claimed seal structure and an indented channel in the terminal support, and the use of ceramic fibers as the insulator." (O.A., page 5). The Examiner relied upon McClanahan et al. for those elements. However, Applicants submit that McClanahan et al. fail to teach or suggest any of these elements.

With regard to independent Claims 1 and 7, Applicants claim a terminal support disposed within the wiring harness, wherein the terminal support comprising a channel extending therethrough, the channel comprising an indentation. Absent in both Kuisell et al. and McClanahan et al., either alone or in combination, is any teaching or suggestion of a gas sensor comprising a terminal support comprising a channel comprising an indentation. Rather, Kuisell et al. teach that the terminals are tightly fitted in the cylindrical openings passing through the terminal adapter. (Col. 3, lines 52-54).

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Further, absent in McClanahan et al. is any teaching or suggestion of a channel comprising an indentation. Rather, McClanahan et al. is no different than Kuisell in that they only disclose a channel for receiving male prongs from a terminal pad. (Figures 2-3 and Col. 3, lines 12-13). More particularly, McClanahan et al. teach that the "female connector includes a metal portion 56 defining a cavity 58 for receiving a least a portion of the male prong." (Col. 3, lines 19-21). In other words, McClanahan et al. do not teach or suggest a channel comprising an indentation.

Furthermore, even if McClanahan et al. taught a channel comprising an indentation, absent in McClanahan et al. is any teaching or suggestion of "a first terminal portion disposed within said indentation of said terminal support." Rather, Kuisell et al. and McClanahan et al. teach disposing a male portion of a terminal into a female metal connector. Applicants direct the Examiners attention to Applicants' figures (e.g., Figs. 2-3 and Fig. 6). The indentation shown in Applicants' Figure 2 is called out in the drawing with reference numeral 132. Further, Applicants' teach, "[t]he indentations 132 located within the channels 130 create a large space for receiving the terminals..." (Page 10, lines 8-10). Absent is Kuisell et al., either alone or in combination with McClanahan et al., is any teaching or suggestion of a first terminal portion disposed within the indentation of the terminal support. Since the above-cited references fail to teach or suggest all of the elements of Applicants' Claims 1 and 7, the Examiner has not made a *prima facie* case of obviousness. Therefore, Applicants submit that Applicants' independent Claims 1 and 7 are not obvious over and are therefore allowable over the above-cited references. Moreover, as dependent claims from an allowable independent claim, Claims 2-6 and 8-12 are, by definition also allowable.

In responding to Applicants' previously presented arguments, the Examiner stated that Figures 2 and 3 of McClanahan et al. "show a one-piece 'cap 38' which has the claimed structure." (O.A. page 7). Applicants respectfully disagree. More particularly, the cap 38 is only one of several components shown in the top portion of Figures 2-3. For example, that top portion also includes wires (62) with a crimped portion (60), and metal portion (56), and plug (64). These multiple components do not form a one-piece seal. Calling these multiple pieces a one-piece seal would be like calling a schematic illustration of a front-end of a car a single piece.

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In this illustrative example of the car, the front end of the car includes, includes, at least, a frame, an engine, tires, brakes, and the like. In other words, they are separate pieces.

Furthermore, with regard to the "one-piece" seal limitation claimed in Claim 13, the Examiner relied upon McClanahan et al. to teach a one-piece seal. However, McClanahan et al. fail to teach or suggest a one-piece seal. Rather, McClanahan et al. teach that a plug or seal may be inserted into the oxygen sensor cap. (Col. 3, lines 24-26). In other words, McClanahan et al. teach the use of two components, i.e., a plug/seal and a cap. This configuration is sometimes referred to in the art as a seal and a boot. In other embodiments, illustrated in Figure 7 of McClanahan et al., only a plug is used, i.e., not the two pieces shown in Figure 3. Applicants submit that this is the conventional plug design used in the art.

Absent in McClanahan et al. is any motivation or suggestion to make a "one-piece" seal having a body disposed in a first portion of said upper shield and a flange, wherein an edge of said upper shield is disposed between at least a portion of said flange and said body.

Rather, in responding to Applicants' previously submitted arguments, the Examiner relied upon case law for the motivation to modify the teachings of the two-piece seal of McClanahan et al. More particularly, the Examiner stated:

[i]t has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. [Cite omitted].
(O.A., page 7).

While it is accepted that a one-piece construction may be an obvious design choice, it is equally well accepted that a one-piece construction may be patentable. See *Schenckv. Norton Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983) (Claims were directed to a vibratory testing machine (a hard-bearing wheel balancer) comprising a holding structure, a base structure, and a supporting means which form "a single integral and gaplessly continuous piece." Norton argued that the invention is just making integral what had been made in four bolted pieces. The court found this argument unpersuasive and held that the claims were patentable because the prior art perceived a need for mechanisms to dampen resonance, whereas the inventor eliminated the need for dampening via the one-piece gapless support structure, showing insight that was contrary to the understandings and expectations of the art.); MPEP 2144.04.

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Advantageously, Applicants teach that "during use, namely exposure to high temperatures, the flange of seal 40 shrinks into the upper shield providing added protection for the sensor 10 against exposure to contaminants." (Page 6, lines 1-4). This is a problem that conventional seal designs failed to solve. Actually, this issue has been addressed by the addition of a second component, e.g., a cap, which is sometimes referred to as a boot. However, it is noted that no-one prior to the Applicant taught or suggested a one-piece seal having a flange.

Additionally, it should be noted that even if the above-cited references teach a one-piece seal, they fail to teach or suggest "a terminal support in physical contact with said terminals". Rather, as discussed above, both references show male prongs being inserted in to a female metal connector. For at least the reasons, independent Claim 13 is not obvious over and is therefore allowable over the above-cited art. Moreover, as dependent claims from an allowable independent Claim 13, Claims 14-20 are, by definition, also allowable.

Claims 14 and 15 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over U.S. Patent No. 5,817,920 to Kuisell et al. in view of U.S. Patent No. 5,329,806 to McClanahan et al., and in view of U.S. Patent No. 5,948,963. Applicants respectfully traverse this rejection.

Kato et al. teach a gas sensor comprising "a sensor element for measuring a predetermined gas component contained in an introduced measurement gas, and a protective cover arranged to surround a forward end of the sensor element". (Abstract). Additionally, Kato et al. teach the use of a ceramic powder, such as, talc between ceramic supports. (Col. 10, lines 57-60).

In making this rejection, the Examiner is relying upon Kato et al. merely for teaching the use of a talc pack. However, Kato et al. fail to cure the deficiencies of the above-cited references. More particularly, Kato et al. fail to teach or suggest, *inter alia*, "a one-piece seal, said seal having a body disposed in a first portion of said upper shield, and a flange wherein an edge of said upper shield is disposed between at least a portion of said flange and said body" and "a terminal support in physical contact with said terminal". Accordingly, Applicants' independent Claim 13 is allowable. Moreover, as dependent claims from an allowable independent claim, Claims 14-15, are, by definition, also allowable.

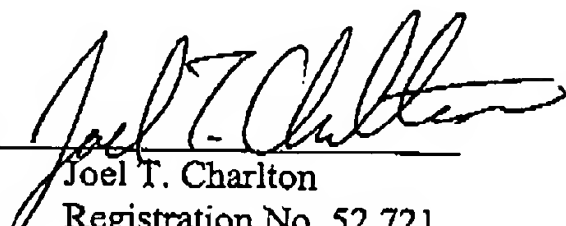
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It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance is requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130.

Respectfully submitted,

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